A Ban on Collecting Lepidoptera in the Department of the Alpes de Haute-Provence, France

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As early as the end of last century Digne was a noted venue for lepidopterists because of localised species and rare aberrations to be found there (e.g. Jones 1890, 1894, Brown 1900). During the last fifty years many lepidopterists including French as well as other nationalities, have descended on the town each year. The attraction of the area is reflected in the number of papers published over the years concerning the lepidoptera of Digne and its neighbourhood. More recently, because of the higher level of living and easier travel facilities, the annual invasion of lepidopterists has sometimes reached very high levels. This has been to the benefit of local commerce and tourism, but apparently to the detriment of certain of the rarer butterflies and moths, the target species of many of the visitors. In order to protect these species the departmental authorities prohibited the collecting of lepidoptera in the area of Digne on the 18th April 1973.

In the years following 1973, the influx of lepidopterists into the department continued and some of our colleagues upset the local authorities by "overcollecting". Thousands of specimens of certain of the rarer species (both butterflies and moths) have been taken for commercial purposes. Resulting from this regrettable behaviour of a small minority, we have seen a gradual strengthening of the legislation against the collecting of lepidoptera. Decrees were published in 1976 and 1977 concerning the protection of wild life. In 1978, following advice from the departmental biological adviser, the Chamber of Agriculture, and the Departmental Commission on Sites, Panorama and Countryside, the capture of butterflies and moths in the entire territory of the department of the Alpes de Haute-Provence was prohibited as from 22nd June.

I have not yet seen or heard of anything in the entomological press concerning this action on the part of departmental authorities, which I think is unique in being the first of its kind in Europe. The entomological revues "Alexanor" and "Entomops" have not mentioned the subject despite the latter being a review of the entomologists of the Alpes Maritimes and Corsica, "almost on the doorstep" as it were. One must remember that the area in question is not a National Park or Nature Reserve but a department, i.e. similar to a county in Britain. The Alpes de Haute-Provence covers an area of 692,522 hectares.

Perhaps many lepidopterists have already experienced being told to pack their nets and go! The first I have heard of (I would have placed bets on it being an Englishman) was Mr. Russel Bretherton, who, accompanied by friends were collecting on the Montagne du Lure during July. A local forester soon appeared on the scene and informed them in no

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uncertain terms of the new legislation. Having travelled such a long way specifically to collect on that mountain, how unfortunate to have one's holiday marred in such a fashion. It is worthy therefore to reproduce herea translation of the bye-law so that other British entomologists know of the new restrictions.

Prefecture des Alpes de Haute-Provence, Service de la Coordination et de l'Action Economique, Bureau de l'Environment, du Tourisme, et de l'Amenagement due Territoire.

ARRETE No. 78 — 2536

Prohibition of capture of butterflies and moths in all the territory comprising the department of the Alpes de Haute-Provenc.

Article 1 Capture of moths carried out at night using artificial light sources and all other methods, also that of their caterpillars, is prohibited in all the territory of the Alpes de Haute-Provence.

Article 2 The capture of butterflies and day-flying moths is prohibited in all the territory of the Alpes de Haute-Provence for a period of ten years following publication of this bye-law in the collection of administrative records of the Prefecture.

Article 3 Capture or destruction of eggs, chrysalids and caterpillars of butterflies and moths is prohibited except those which are agricultural, horticultural or forestry pests.

Article 4 Exception from article 2 is made for children under twelve years of age who catch butterflies with pocket nets of a diameter not exceeding 20 c.

Article 5 Capture for scientific purposes of butterflies and moths as well as their eggs, chrysalids, and caterpillars is possible under exceptional authorization from the departmental Director of Agriculture, on the express condition that the request is made to him not less than one month in advance, the validity of such authorization not exceeding two months.

Article 6 The Secretary General ofthe Alpes de Haute-Provence, the Sub-Prefects, the mayors, the Colonel commanding the police of the Alpes de Haute-Provence, the Departmental Director of Agriculture and the employees of the National Forestry Offic and municipal guards are entrusted, each and every one, with the carrying out of this present bye-law.

Digne 22ndJune 1978
Signed: Paul Rouaze

It would appear form article 5 that collecting permits can be obtained under certain conditions. Perhaps being a member of an entomological society might be sufficient evidence of scientific intent? However, I doubt it because some commercial dealers are also members of entomological societies. In time, no doubt, the situation will became clearer.

In several European countries, laws are in force which protect certain species of lepidoptera. In Germany *Parnassius* species are protected in all their stages. Likewise *Zerinthia* species have been protected in Czechoslovakia since 1965. I

belive that there are similar laws in Austria and Switzerland but I have no information concerning which species are protected. Perhaps other readers can supply more information on this subject? The present collecting controversy and focus on conservation stimulated me to expand this paper more than I originally intended with the objective of making further information available to those interested.

In Britain we have seen many papers during the past few years concerning the misuse of light traps (e.g. Smith & Smith 1978) also ther have been one or two papers specifically on insect/butterfly conservation (Owen 1974, Gardiner 1976). I echo the views of Smith & Smith in confirming that it is nearly always members of national organisations who run light traps which kill everything which enters them (i.e. Rothamstead traps). Although I have little knowledge of what goes on in the Alpes de Haute-Provence, I can present here some information concerning the Vaucluse. During ten years of collecting experience in the Vaucluse, the only light traps I have encountered which kill all the insects which enter, are those run by employees of the Institute Nationale de la Recherche Agronomique (I.N.R.A.). Both the Montfavet Agricultural Research Station and the Laboratoire d'Ecologie de Mont Ventoux both run severalsuch traps. I am informed that those positioned on Mont Ventoux and which are concerned mainly with the monitoring of populations of*Thaumetopoea pityocampa* Schiff., the Processionary Caterpillar of the Pine, frequently require emptying three or four times per night in mid-summer. The thousands of dead moths are later examined and identified (when possible) by students who act as temporary employees during summer months. All the light traps used by visiting amateur lepidopterists have been without exception of the "Robinson" or "Heath" design, and made use of a sheet or egg packing trays. These traps alow the lepidopterist to select the desired specimens and to release the remainder, usually the vast majority, unharmed.

In the case of the light traps used by Montfavet Agricultural Research Station, they are used to monitor the arrival of migrations and population fluctuations of twenty or more pest species of Noctuidae. The light traps are positioned in agricultural areas around Avignon. This type of use is perhaps acceptable to most lepidopterists.

In the case of the light traps used by the Laboratoire d'Ecologie du Mont Ventoux, Malaucene, I would query the necessity for using light traps to monitor the population of *T. pityocampa.* Having had some professional experience during 1963 involving a serious outbreak of the Pine Looper, *Bupalus piniarius* L. (the Bordered White) in Cannock Chase, I feel that I can discuss the matter with some authority. Although there will undoubtedly be correlation betweeen numbers of moths killed in the traps and actual populations, for one reason or another the figures obtained are not very accurate and can only be used as an indication of fluctuations. The same indica-

tion may be obtained by other methods involving larvae. The ease with which one can count the web nests of larvae in the springtime also makes possible the counting of nests by aerial photography either using daylight or infra red film. Surely it is not necessary to kill thousands if not millions of moths in order to know when the adult moths are emerging and laying eggs. A further disadvantage of such semi-permanent light traps is that large numbers of moths are eaten by bats which soon learn that light traps are a good source of food. The numbers of bats involved can be large and fluctuations in the bat populations will be reflected in the numbers of moths taken in the traps.

My friend Mr. Gerard Luquet, the editor of "Alexanor", who is employed as a lepidopterist in the Museum Nationale d'Histoire Naturelle, Paris and sometimes at the Laboratoire d'Ecologie due Mont Ventoux, on being questioned about the effect of the "complete mortality" light trap, informed me that the statistics taken by his colleagues over a number of years indicate that there are no adverse effects on populations from the use of such traps. Personally I feel that this is an incorrect conclusion based on inadequate data. Perhaps it is correct for certain common species with wide distribution but I would suggest incorrect for uncommon species with restricted distribution. Populations normally fluctuate from generation to generation depending on parasitism, predation, food supply and weather. Should large numbers of an uncommon species be taken when a population is extremely low, long term damage can be inflicted on the population and it may take several years to regain its normal density. Thus we find conflicting evidence: that of personnel of I.N.R.A. on the one hand and that of the advisers to the Prefecture of the Alpes de Haute-Provence on the other. It appears obvious to me that the latter are correct.

I have already pointed out that it is not the effect of light traps upon common species with wide distribution which worries the conservationist. It is their effect upon uncommon species with restricted distribution. In the Alpes de Haute-Provence I presume that one of the major subjects for conservation is the Saturniid *Graellsia isabellae* Graells., undoubtedly one of the species most concerned with the present ban on collecting. There has been for some years, publicity concerning the rarity of this and other insect species in France, where it is restricted to two or three departments in the south. Despite this "warning", large numbers have been collected annually by both French and German commercial dealers. I fear that Mr. Gardiner's supposition (Gardiner 1977) that A1 specimens are more easily obtained by breeding is just not true. Soon after emergence most wild specimens are perfect. Unscruplous dealers will kill and sell even damaged specimens. Mr. Gardiner also states, "There is no known proved instance of any butterfly or moth ever having been exterminated by over-collecting". This is, of course, very

difficult to prove, but a recent example of disgraceful behaviour on the part of a South African dealer/lepidopterist comes to mind. A recently discovered species of Lycaenid, *Oxychaeta dicksoni* (Gabriel) with a very restricted distribution was, as far as is known, collected to the point of extinction within one season so that the individual concerned could charge high prices for his "rarities". Mr. C. G. C. Dickson, after whom the species was named, informed me that it has not been seen since. Following on from this there is now a list of butterfly species protected by law in South Africa, with heavy fines or imprisonment for anyone transgressing the law. Laws such as this are very hard to implement especially in wild, mountainous areas, forests, etc. Far better is to prohibit the sale, as well as the collection, of the insects concerned.

In the case of the Alpes de Haute-Provence, protection of certain uncommon species would likewise be hard to implement (as it is in Britain). Those personnel required to assist in the carrying out of such a law are not likely themselves to be able to tell one species from another. Undoubtedly in cases such as this, it is better to establish a nature reserve or put a total ban on collecting.

While completing this paper, the October issue of "The Record" was delivered and with great interest I read various "Letters to the Editor" from Messrs. Jacobs, Hyde and Willmott (*Ent. Rec.* **90**: 272-274). Undoubtedly permanent destruction of habitat is the major cause of the disappearance of insect species, with other factors such as over-collecting, temporary destruction of habitats by fires, droughts, etc., and interference in the natural balance of an ecosystem such as the introduction of myxamotosis, all playing lesser rôles. It is urgently necessary to protect as many unspoilt areas as possible from the ravages of mankind. To this end, local naturalist's trusts greatly need our support. I would also like to see greater action on the part of learned societies (ornithological, zoological, entomological and botanical) working together with government. Wild life must be protected for scientific interest and leisure activities of future generations. Action is needed now and anything which aids conservation should be welcomed, however irritating it might be to some individuals. For this reason I fully support the Prefecture of the Alpes de Haute-Provence in their present ban, which for butterflies is in force until 1988. We must wait ten years to see whether the ban will be a permanent one.

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